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# The Value of Relaxation As Preparation For Rational Psychotherapy

John M. Hadley

*Fort Hays Kansas State College*

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THE VALUE OF RELAXATION AS PREPARATION FOR  
RATIONAL PSYCHOTHERAPY

being

A Thesis presented to the Graduate Faculty  
of the Fort Hays Kansas State College  
in partial fulfillment of the re-  
quirements for the degree of  
Master of Science

by

*Willard*  
John M. Hadley, A. B.  
Fort Hays Kansas State College

Date

*November 14, 1937*

Approved:

*E. S. Atchley*  
Major Professor

*Acting*

*F. B. Streeter*  
Chairman Graduate Council

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John M. Madley

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Psychologists and psychiatrists have long been in need of an aid which would be of use to them in preparing their patients for various psychotherapeutic methods, those methods which depend upon the patient's effecting his own cure through investigation and understanding his own problems. The investigation of these results apparent from relaxation and the search for aids to psychotherapy have energized the research in the field of relaxation.

### HISTORY

Flood evidently realized that some sort of relaxation was valuable in psychotherapy, so he had his patients relax on a couch, as Dr. Williamson, Flood's doctor at the University of Illinois, Dr. J. B. ...



## INTRODUCTION

Quite frequently the statement is made, especially in medical circles, that the intense living required in modern civilization has disastrous effects upon the physical and mental health of those persons who are required to live at such a strain. To combat the ill effects of this strain medical men have made a common practice of recommending 'rest cures.' The same theory which is behind 'rest cures' is responsible for the advancement of methods of relaxation. These methods were first introduced to promote rest systematically. That the results of relaxation are different from the results of rest alone has been apparent recently.

Psychologists and psychiatrists have long been in need of an aid which would be of use to them in preparing their patients for rational psychotherapeutic methods, those methods which depend upon the patient's effecting his own cure through investigating and understanding his own problems. The investigation of those results apparent from relaxation and the search for aids to psychotherapy have promoted the research in the field of relaxation.

## HISTORY

Freud<sup>1</sup> evidently realized that some sort of relaxation was valuable in psychotherapy, as he had his patients recline on a couch be-

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1. Hitschman, Freud's Theory of the Neuroses, p. 189-225.



hind a screen during psychotherapeutic conferences. He also instructed them to keep their minds as free from worry as was possible.

Jacobson<sup>2</sup> reports on his research in the field that relaxation is valuable as a therapeutic device in the treatment of various types of anxieties.

Bagchi<sup>3</sup> is of the opinion that relaxation is particularly valuable in mental hygiene. He reports that the Hindu in a state of relaxed attention is affected by what is agreeable to him and unaffected by anything else.

Among those individuals who are interested in the study of relaxation is Rosetti<sup>4</sup>, who has devised an apparatus for the induction of muscular relaxation. Another is Ferenczi<sup>5</sup>, who discusses an unusual form of catharsis which manifests itself when relaxation is used as a therapy. Instead of the fragmentary eruptions of emotion and recollection which come in primitive catharsis this new form, which Ferenczi calls neocatharsis, is seen as an indication that the analytic technique is succeeding in drawing near the etiological reality. Alexander<sup>6</sup> discusses Ferenczi's findings and compares the position of the analyst in relaxation therapy with the classic neutral attitude of the analyst. Taylor<sup>7</sup> reports on findings concerning a form of relaxation learned during a somnambulistic trance. Van Alostyne<sup>8</sup> has investigated the conditions which affect the degree of relaxation in children.

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2. Jacobson, Progressive Relaxation.

3. Bagchi, Mental Hygiene and the Hindu Doctrine of Relaxation.

4. Rosetti, Archives of Neurology and Psychiatry 22, p. 737-745. 1929.

5. Ferenczi, The International Journal of Psychoanalysis, 11, p. 428-443.

6. Alexander, International Journal of Psychoanalysis 14, p. 183-192.

7. Taylor, Psychological Bulletins 32, p. 734-735. 1935.

8. Van Alostyne, Child Development 6, p. 310-32. 1935.



## STATEMENT OF THESIS

The suggested uses of relaxation given by the technique of Freud coupled with the findings of Jacobson, Ferenczi and Bagchi have prompted the investigator to make some observations of the function of relaxation in rational psychotherapy. This presupposes that relaxation is used with considerable discretion. The investigation has been stimulated by a growing tendency in the Fort Hays Kansas State College Psychological Clinic to treat patients from the standpoint of the whole individual until specific traumata can be discovered.

In considering the value of relaxation, it may be well to think of the individual in much the same manner as does Lewin<sup>9</sup> in setting forth the principles of topological psychology. The investigator considers the individual as a complex system of tensions operating in a topological field of forces. Anything which affects the individual affects more or less the entire individual and his adjustment toward the forces which limit his activity. In the mentally and physically healthy individual all of these tensions and forces are in balance. When the system is thrown out of balance, it seems well to suppose that the first step in restoring the healthy balance is to reduce to a minimum the tensions surrounding the individual. It is indicated that the real tension or disturbing factor can be more easily discovered if all extraneous tensions are removed. The system probably can not be restored to complete balance, however, until the real trauma is removed or adjusted to.

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9. Lewin, Principles of Topological Psychology.



## METHOD

The investigation was divided into two different sections. The method of each was as follows:

### Section A - Case Studies.

Relaxation was used as therapy by the investigator in working with four individuals who came to the clinic for advice and assistance. The various developments with these cases are reported here.

Relaxation was considered in its context and not isolated and treated by itself. The isolation of a factor implies statistical treatment and no attempt is made here to treat the material statistically.

### Section B - Group Studies.

#### Group 1 - Control Group.

A college psychology class of thirty-one persons was tested before and after a period of one week with equivalent forms of a personality scale of one hundred items.<sup>10</sup> During this week the class conditions were held as normal as possible. The scale consisted of one hundred statements of things which are frequently indicated by people as problems. The problems were taken principally from the Maller<sup>11</sup> Test of Personality and Social Adjustment. The items were arranged in the form of statements, such as "I am usually prompt" and "I put off my work as long as possible." Each individual checked the

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10. Complete forms given in Appendix I.

11. Maller, Personality Sketches.

items which applied to him, more than to others. Equivalent forms of the scale were arranged which contained the same items and which differed only in the order and in the form of the statement. For example, in Form I a statement may be, "I am lazy," and in Form II it may be, "I am not lazy."

#### Group 2 - Tension Group.

A college psychology class of thirty-nine members was placed for a week under a certain amount of tension. This tension was obtained by requiring them to prepare three-minute speeches on topics about which persons commonly worry. The topics were, "grades," "feelings of inferiority," "the inability to have a happy marriage," "accidents and disease," "disappointments in love," "poor appearance," "insanity," "careers" and "cutthroat competition." Three individuals were selected at random each day to make the talks. The entire class was required to write a paper on the last day of the tension period with the knowledge that the four worst papers would be posted on the bulletin board. They were tested at the beginning and at the end of the period of tension with two different forms of the personality scale.

#### Group 3 - Discussion Group.

A college class in family relations consisting of twenty-one young women was tested with one form of the personality scale. The problems which they indicated were then discussed with them by an instructor. After seven days they were retested with another form of the personality scale.



#### Group 4 - Relaxation Group.

A college psychology class of fourteen members was tested with the personality scale before and after a week in which an attempt was made to keep the conditions as relaxed as possible and to instruct them in the technique of relaxation. They were asked to report whether or not they were relaxed. A check was kept on the group for four weeks to note what use they were able to make of their instruction in relaxation.

There are several points to be considered in interpreting the results from these experimental groups. In the first place, some doubt is indicated by Jacobson<sup>12</sup> and others as to the effectiveness of group relaxation. In the second place, we are interested in the effect of different conditions on different individuals rather than group trends. Since the reaction of one individual may be obscured by the opposite reaction of another individual, significant findings may be covered.

### FINDINGS

#### Section A - Case Studies.

The developments with the several cases are described in detail, and indications relating to the investigation are noted.

#### Case A - Anxiety Hysteria.

This young man was a sophomore in college, twenty years old, medium sized, and a pre-medic student. His intelligence quotient, as mea-

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12. Jacobson, Progressive Relaxation.



sured by a Henmon-Nelson Test of Mental Ability, was 128. He had an exceptionally large vocabulary and took considerable delight in using such large words that his associates had difficulty in understanding him. While the possession and use of a large supply of words is an admirable trait, this young man carried his use of them too far. It was evident that his use of large words represented a personality deviation. Case A was employed in the clinic shop and did somewhat less than average quality work. The quality of his work was lessened because of the fact that he became very nervous and distracted whenever he was criticized for a mistake.

Case A came to the clinic because he had been told that advice and assistance with problems might be had there. He reported his problem as one of excessive worrying about trivial things. At the time of his first conference he was especially worried because his grade point average had dropped from a 4.8, indicating nearly straight A's, to a 4.0, indicating straight B's or the equivalent. He was taking a pre-medic course and knew that if he did not make good grades he would not be able to gain admittance to medical school. He knew that his grades were getting poorer and poorer, but he seemed to be unable to do anything about it. He was taking chemistry and anatomy that he "just couldn't get." The things which bothered him most were those things which did not offer an immediate solution. It was clearly evident to the investigator that he was sincere in his anxiety as the divulging of his problem was accompanied by a great deal of emotion and his very attitude was one of desperation. He was told that there was evidently something bothering him which was deeper than study difficult-

ies. He was very eager to understand why he worried and to be able to cease worrying.

Case A was very nervous and distracted when he came for his second conference. He moved continually as he sat in his chair and his hands were always busy. He seemed to want to talk but, when he was given a chance to talk, he spent some time discussing some principle in chemistry that he could not grasp. The investigator pointed out to him that he seemed to be tense both physically and mentally and, perhaps, that this tenseness was interfering with his ability to concentrate. He was shown by an example how that might be so and how he might profit by taking a more relaxed attitude towards the things with which he came into contact. He was shown how his physical tenseness interfered with his ability to take a rational and relaxed attitude either towards his studies or his personal problems. He would not admit that he was very tense but consented to attempt to relax if that would do him any good. The investigator was of the opinion that if he could get the case to take a more relaxed attitude even towards conferences, his problems could be more easily discovered. The first attack seemed to be to train the case in physical relaxation. The procedure with this case consisted in helping him to discover his physical tensions and then in teaching him to remove these tensions. The case was working very hard and was allowing no time for recreation. The investigator recommended to him that he set aside an hour every day to do only the things that he wanted to do. It was thought that, with an hour a day in which to do those things which he enjoyed, he would be able to apply



himself more efficiently during study and work periods.

After practicing relaxation for four days, he reported for his third conference. It was evident from the first that he was considerably more at ease than he had been for some time. However, the relaxation which he had attained was a forced relaxation and not natural. He said that he thought relaxation was silly and that he did not see what it could do to relieve his anxiety. He wanted to dig into his problem and find out just what the trouble was. It was also evident from his attitude that he expected the investigator to take one look at him, tell him exactly what the trouble was, and then tell him what to do about it. The investigator explained to him that before his real problem could be discovered, these present tensions would have to be removed as they tended to obscure everything else. He accepted this explanation and agreed to make a conscious and sincere attempt to cultivate a relaxed attitude. The remainder of the conference period was spent in relaxation.

Two days elapsed before the fourth conference. During these days it was observed that his work in the shop was done better and that he was less distracted and more relaxed. When the case reported for his fourth conference, he was remarkably relaxed. He immediately reported that he had organized his school difficulties and that there was nothing bothering him. He was anxious to discontinue the series of conferences. This might be regarded by some as a cure, but it was felt that the anxiety about school work was superficial and that anxiety might easily re-occur later. Disliking to discontinue the conferences, the investigator asked him to return for another conference.



During the fifth conference the case was asked a number of very searching questions taken directly from a form used in the clinic as a personality examination. A deeper and more personal problem was discovered, the nature of which may not be divulged in this report. The uncovering of this problem was accompanied by considerable tension. The case immediately expressed the desire for further conferences.

The next several conferences were spent in discussion of his problems and practice in relaxation. The case indicated that he was able to use relaxation to good advantage in formulating a solution to his problem. After the tenth conference it was decided to discontinue the conferences as the case seemed to have adjusted satisfactorily.

It is very interesting in this connection to note that this case raised his grade point to a 5.0 following training in relaxation. The director of the clinic reported that the quality of the case's work was immensely improved, and that he was considering placing the case in charge of the office for the succeeding semester.

In this case there were four distinct developments which are significant to this investigation. First, there was difficulty in getting the cooperation of the case with such a passive approach as relaxation. The case was anxious to get at the seat of his problem and was impatient with any method which appeared indirect. Second, as soon as the case was able to adjust to his immediate tensions he was sure that everything was settled. Third, by the use of direct attack and tension producing devices a deeper and more personally centered problem was discovered. Fourth, the case was able to use relaxation in formulating a solution to the deeper problem.

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In this case we also see relaxation playing two roles. It seems logical to assume that relaxation had removed the surface tension or phobic facade which is characteristic of anxiety hysteria and that the case had adjusted on that level. Here we see it operating against a rational solution of the case's personality problem. In the second place, after the fundamental problem was discovered the case was able to use relaxation to meet his problem more rationally.

#### Case B - Speech Defect

This young lady was a freshman in college, very intelligent, eighteen years of age and in excellent health. Her speech defect was evident as an inability to pronounce sounds such as 'r,' which came from the back of the mouth. The difficulty was diagnosed as being caused by a very large pharyngeal opening with insufficient closure. She was quite embarrassed by her speech and quite frequently dodged opportunities to recite or to talk.

The case was instructed in methods of relaxation and shown by example how relaxation could prove valuable to her. After two conferences the case was able to assume easily an attitude of relaxation. It was interesting and disconcerting to discover that her speech was considerably worse when she was instructed to read aloud while relaxed than when she held her throat muscles quite tense. When she did the later, she was able to force the pharyngeal opening to close. She reported that she felt more at ease and much less sensitive of her speech when relaxed than when tense. A program of relaxation similar to the differ-



ential relaxation of Jacobson was outlined for her in which she practiced relaxing all her muscles except those used directly in her speech. Following the use of this program she showed some improvement in her speech and very much in her attitude towards her speech defect. She became less ashamed of her speech defect and did not dodge situations involving speech as she did formerly.

#### Case C - Anxiety

This lady was a sophomore in college at the time she came to the clinic for help. She was thirty-four years old, very fleshy, and of medium intelligence. She had been a country school teacher for many years. She became badly agitated when faced by any tensing situation. She had been known to cry before, after, and during tests. During her first appointment she twisted a handkerchief to bits, nearly cried, and gave every indication of extreme nervousness and excitement. The suggestion was made that she practice relaxation to overcome that tension and nervousness which she experienced. Relaxation was explained to her and methods were suggested. All of the conferences with this case were spent in relaxation. She was not asked to tell about a problem. Any material or information pertaining to personal problems was volunteered by her. The technique consisted principally in helping her to discover her tensions and to relax them away. She was very anxious to become proficient in relaxation.

She seemed able to relax every part of her body with the exception of her hands, which were very tense. It appeared that she could not hold her hands quiet, much less relax them, for any period of time, so after the second conference the investigator recommended that she prac-



tice relaxation at home and try to carry the relaxed attitude into every thing that she did.

The early part of the third conference was spent in relaxation by the case and in suggestions and criticism by the investigator. After she had become quite comfortable and relaxed, she told of an experience which indicated that she had been able to carry the feeling and attitude of relaxation over to life situations. She had been able to preside at a joint meeting of two county Christian Endeavor associations and was able to fill in time until the guest speaker, who was very late, arrived. She was sure that it would have been impossible to do this before the three conferences. During this conference she also reported some anxieties which she had been experiencing. The fourth and fifth conferences were spent in the same general type of relaxation. She reported that she thought that she was gaining considerable adjustment from relaxation. One of her instructors was looking at the notebooks which the members of the class were supposed to have prepared. She had not prepared her book and at first became very tense. She then noticed the tension and consciously relaxed. The instructor reported that he noticed her adjustment.

Early in the sixth conference she began to talk very freely and told of many problems and anxieties which were very close to her personal life. These problems concerned her plans for the future and were a great source of anxiety. During the seventh conference she requested help and advice in adjusting to these problems. The investigator helped her to discover a number of apparent possible solutions but recommended

that she consider all of them and not be too hasty in her decision.

After ten conferences, she suggested that the series of conferences be concluded as she thought that she could see her way clear.

Following this series of conferences she was less tense and was a much better adjusted individual. She was able to respond much better in classes and conducted herself more rationally during tensing situations.

The interesting development with this case was the spontaneous catharsis which was forthcoming after the case was relaxed. Through this catharsis, which was forthcoming only during relaxation, she seemed to make a satisfactory adjustment to her problems. It is possible that we have here an indication of what Ferenczi chooses to call neo-catharsis. In this case, it appears that relaxation was very valuable in uncovering her problems and in adjusting to them. She was not able to face situations easily without forcing herself to relax until she recognized her real problem. After she recognized her problem she reported that she felt naturally relaxed.

#### Case D - Stutterer

This case was a young man, twenty years old, healthy, and of average intelligence, who had a very bad combination of tonic and clonic stuttering. He was a delivery boy for a business establishment, and was continually being embarrassed by his speech, since he was frequently called upon to collect. The clinic staff was of the opinion that a considerable amount of his difficulty was due to personality maladjustment. The case was trained extensively in relaxation and became very profic-



ient in its use. During relaxation it was evident that he was considerably less embarrassed by his speech and that his spasms were shorter. He was continually dodging opportunities to talk with friends and acquaintances before he began to practice relaxation. After he became more relaxed he began to keep steady company with a young girl. Previous to this, he had been too embarrassed by his speech to attempt the ordeal of asking to see a girl or to call for her at her residence.

The most fundamental evidence for this study came, however, in the analysis of his personality difficulty. In the five conferences before it was decided to try relaxation therapy, it had been impossible to get the case to talk of anything which might be considered fundamental to his problem. He wanted to talk about new lines of goods in the store and the weather. He dodged all material which bore on his home life or his childhood memories, and it was impossible to get him to report any dreams. He blocked immediately on any association, and it was difficult to obtain any catharsis. After he had practiced relaxation for about two weeks he began to report more fundamental material. Dreams were reported, and significant material was obtained from association with the contents of them. He disclosed childhood memories and experiences which appeared significant. He told of experiences with girls which had proved embarrassing to him and of difficulties in his family which were upsetting him. Unfortunately just at the time when analysis was drawing near to the etiological reality, vacation time arrived, and the case soon left town.

## Section B

The results of the group experiments are summarized in the following tables which are explained later.<sup>1</sup>

TABLE I

1	2		3 RESULTS		4	5		6		
Group	Initial		Terminal		Gains		Changes		Change Ratio	
	Measure.		Measure.							
	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.
	of		of		of		of		of	
	Mean		Mean		Mean		Mean		Mean	
1. Control	34.23	2.15	32.45	2.24	-1.78	1.24	28.74	1.74	.876	.046
2. Tension	32.15	1.96	34.72	1.72	2.57	1.02	32.35	1.33	1.107	.062
3. Discussion	33.00	2.33	35.53	1.90	2.53	1.47	32.20	1.28	1.04	.074
4. Relaxation	33.71	3.44	33.00	3.11	- .71	1.26	34.85	1.88	1.05	.11

TABLE II

GAIN IN MEAN NUMBER OF POSITIVE PROBLEMS BETWEEN INITIAL AND TERMINAL MEASUREMENTS FOR EACH GROUP

1	2	3	4	5
Group	Difference	Std. Err. of Diff	cr.	Chances in 100 of true diff.
1. Control	-1.78	3.10	.57	71.57
2. Tension	2.57	2.61	.99	83.89
3. Discussion	2.33	3.02	.83	79.67
4. Relaxation	-.71	4.63	.15	55.96

TABLE III

COMPARISON OF GROUPS

1	2		3		4	
Groups	Gains		Changes		Change Ratios	
	Diff.	diff. cr.	chances	diff.	diff. cr.	chances
1 & 2	4.35	1.61	2.70	99.65	3.61	1.98
1 & 3	4.31	1.92	2.24	98.75	3.46	1.95
1 & 4	1.07	1.76	.6	72.57	6.11	2.38
2 & 3	-.04	1.79	.02	50.80	-6.15	1.84
2 & 4	-3.28	1.62	2.02	97.83	2.50	2.30
3 & 4	-3.24	1.94	1.67	95.25	2.65	2.27

1. Complete data are given in appendix.



## EXPLANATION AND DISCUSSION OF FINDINGS GIVEN IN TABLES

Table I summarizes the findings of the group experiments. In column 2 is listed the mean number of problems indicated by the individuals in the various groups before the experimental period. Together with the means, the standard errors of each of the means are also listed in column 2. In column 3, the same information is listed in respect to Form II, which was administered following the experimental period. The mean gain in number of problems is listed in column 4 together with the standard error of each mean. The mean number of gains per individual offers a basis upon which to compare the various groups as to whether they gain or lose in number of problems indicated. In column 5 is listed the mean number of changes in problems between the first and second administrations of the scale. There are two different ways in which these changes in problems may be handled. According to one view, each individual has a chance to make exactly 100 changes, that is to say, each individual may change in his reaction to any one or all of the 100 items in the scale. However, significant gains may be averaged out and observed. According to another view, the individual changes only in respect to those positive problems which were first indicated by him. Column 6, then, includes change ratios obtained by dividing the total number of changes by the total number of problems originally indicated.

Table 2 shows amount of gain in gross number of problems indicated. Group 1 is the control group. The difference between the means is -1.78,

the standard error of the difference is 3.10, the critical ratio is .39, and the chances in 100 that this difference is a true difference are 71.57. This is not a statistically reliable difference, and indicates that the individuals did not gain or lose an appreciable amount under normal conditions. The findings might be interpreted as showing a slight amount of negative adaptation to the scale.

Group 2. Tension Group. The difference between the means is 2.57, the standard error of the difference is 2.61, the critical ratio is .99, and the chances in 100 that the difference is not due to chance are 83.89. This is not a statistically reliable difference, but indicates a slight trend towards an increased number of problems following tension. It is of interest here to note that 62 percent of the group reported that they felt tension while 69 percent showed increased problems.

Group 3. Discussion Group. The difference between the means is 2.53, the standard error of the difference is 3.02, the critical ratio is .83, and the chances in 100 that the difference is valid are 79.67. This, although not statistically significant, is interesting in that it shows that the number of positive problems did not decrease after discussion of the problems. Instructors and even medical men are prone to attempt to alleviate problems by explaining the true nature of the problems. The findings here would indicate that discussion suggested additional problems rather than removed any existing problem. In some cases, it is possible that an increased number of problems is favorable, as often maladjusted individuals fail to report all of their problems.



Group 4. Relaxation Group. The difference between the means is  $-.71$ , the standard error of the difference is  $4.63$ , the critical ratio is  $.23$ , and the chances in 100 that the difference is valid are  $55.96$ . This is by no means a significant decrease in problems. The only indication is that relaxation does not produce an increase in problems and, in that respect, may be superior to either tension or discussion for psychotherapy.

It is interesting to note in this instance that six of the fourteen individuals reported that they felt relaxed during the week. Five of these individuals showed a decrease in number of problems reported. Of the eight who reported that they felt about as usual, six of them showed an appreciable increase in number of positive problems.

Table III shows differences between groups. Column 2 gives differences, standard error of differences, critical ratios and chances in 100 that differences are reliable between groups. Column 3 gives the same information concerning changes in problems. Column 4 gives results when the change ratio is considered.

It can be seen from the table that the tension group (2) gained in number of problems and changed problems more than did the control group. The results are nearly statistically reliable, and in the case of the change ratios, they are reliable.

The same general trend is indicated by the discussion group (3) except the results are not quite as reliable from the statistical standpoint. In every case it will be noted that there are 95 or more

chances in 100 that the difference is a true difference.

When the relaxation group (4) is considered there is no tendency towards gain in problems but there is a decided tendency towards changed problems as compared with the discussion group.

In comparison of tension group (2) and discussion group (3) we do not find any differences approaching reliability.

When we compare the tension group (2) with the relaxation group (4), we find a decided decrease as far as gains are concerned but no significant differences as far as changes in problems are concerned.

The same general tendency is noted when the relaxation group and the discussion group are compared.

In addition to the results noted from individuals who reported that they felt relaxed, we have the following observed results from the relaxation group.

1. Thirteen of the fourteen individuals in the group reported that they were able to use their training in relaxation to good advantage in the taking of a very difficult test in genetic psychology.
2. The fourteenth individual reported that she could never do anything well unless she was very tense.
3. Three individuals reported that they were able to use relaxation to good advantage in going to sleep.
4. One individual reported that he had never felt so comfortable and adjusted as he had since he had begun to practice relaxation.
5. One individual was able to use relaxation in making a speech and another used it to good advantage in reading.
6. Thirteen of the fourteen reported that they thought they would be able to make good use of relaxation in the future.



## CONCLUSIONS

From the four case studies<sup>1</sup> and the group studies the following observations are submitted which seem fundamental to any one considering relaxation as an aid in psychotherapy. However, these studies and the observations made from them are subject to discussion and to further verification.

1. Relaxation seems to have a useful role in rational psychotherapy if it be prescribed and used with discretion.
2. Considering both case studies and group studies, it is indicated that there are individual differences in respect to relaxation.
3. Individual relaxation seems to be more efficient than group relaxation. The same methods of relaxation do not apply to any two people.
4. Personality scales do not appear to be of much value for diagnostic purposes. While the specific problems indicated may change from day to day, the total number of positive problems seems to hold practically constant. This total number of positive problems indicated might be used as an index of the degree of adjustment or maladjustment.
5. Statistical measurements are not satisfactory in a study of this kind, as they show only group trends and may obscure significant individual reactions.
6. In the case of some types of problems, for example anxiety hysteria, some difficulty may be encountered in securing the cooperation of the case with such a passive approach as relaxation.

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1. First seventeen conclusions drawn from case studies, remainder from group studies.

7. In some cases relaxation may remove a superficial symptom and leave the basic difficulty more obscure than ever. We see an example of this in the case of anxiety hysteria.
8. On the other hand, as for example, in the case of the girl who could not meet testing situations, the case may gain a clearer insight into his problem after surface tensions are removed.
9. In some cases over-relaxation seems to have the same results as too much reassurance in that it confirms the patient's original formulation of his problem and counter-suggests the symptom.
10. Discrimination must be used in prescribing relaxation, as some physical disability may not allow of too much relaxation.
11. In a true anxiety, the case responds very favorably and appears to gain considerable adjustment from relaxation.
12. Relaxation has a definite mental hygienic value, especially in cases which are sensitive regarding physical defects.
13. Relaxation seems to be of definite general value to a stutterer.
14. Association is freer and less restrained when case is relaxed.
15. Catharsis is freer and more personally centered when case is relaxed.
16. Catharsis is more spontaneous when case is relaxed.
17. When case is relaxed catharsis is not accompanied with the burst of emotion which characterizes ordinary catharsis. (This observation, as well as the two preceding conclusions, supports the report of Ferenczi.)



18. The gain in problems is more marked with a group who are placed under tensing conditions than with a group who are under normal conditions.

19. Discussion does not produce a lessened number of problems. On the contrary, as shown in group 4, there is a slight tendency for the individual to gain in the number of problems reported after a variety of problems are discussed with him.

20. Individuals who had problems discussed with them gained more problems than did the control group.

21. When the group is considered there is no decrease in problems after a period of relaxation, but when just those individuals who reported that they felt relaxed are considered, an appreciable decrease is noted.

22. Tension, discussion, and relaxation, all seem to produce a change in problems indicated.

23. Tension and discussion produce a gain in problems while relaxation does not.

## APPENDIX I

### FORM I - PERSONALITY SCALE

1. I find it easy to talk to strangers.
2. I feel lonely even when I am with people.
3. I feel hurt when I receive a bad mark or lose a game.
4. I do my work as soon as possible.
5. I like to find fault with people.
6. I feel jealous and envious of other people.
7. I would rather follow than lead at a party or a game.
8. I am often gloomy and very unfriendly.
9. I am often very unhappy and grouchy.
10. I can look down from high places without feeling dizzy.
11. I am very careful and orderly about things.
12. I am able to stand a great deal of pain.
13. I am afraid of the dark and loud noises.
14. I am unaffected when some one looks at me when I am writing.
15. I often have headaches.
16. I often feel pain all over my body.
17. My friends think that I am unhappy and miserable.
18. I like to go to parties and meetings.
19. I usually prefer to read a book than to meet people.
20. I am sometimes afraid some one is watching me.
21. I feel strange when people look at me.
22. I feel that I am as good as my friends.
23. I always feel rested after I get up in the morning.
24. I become upset when I have to say something in class.
25. I am free from dizzy spells.
26. I quarrel over games, thinking only of myself.
27. I feel at ease in the presence of a teacher.
28. I hate to take part in discussions.
29. I am always kind to playmates and pets.
30. I am disliked by my classmates and teachers.
31. I like to be with people rather than alone.
32. I am unpopular at school and at play.
33. I am treated unfairly at home.
34. I am free from anxieties about death.
35. I am unable to think and speak clearly.
36. I am continually forgetting or losing something.
37. I often give away secrets.
38. I am very fussy and cranky about food.
39. I am annoyed when people ask me questions about myself.
40. I am easily talked into doing things.
41. I am very much upset before taking a test.
42. I am easily talked into buying unnecessary things.
43. I feel that I can do a thing once and it will be right.
44. I get all mixed up in a contest or a game.
45. I am free from strange feelings that things aren't real.
46. I am free from nervousness.
47. I am unable to look people straight in the eye.
48. I am independent of other people in deciding what to do.
49. I seldom if ever dream that some people have died.
50. I make a lot of fuss about little things.



51. I do my work as quickly as I can.
52. I let my mind wander and forget what I was doing or saying.
53. I am careful.
54. I am usually prompt.
55. I usually act bravely.
56. I seldom or never get tired of study or work.
57. I am ashamed of some of my relatives.
58. I do my best before giving up.
59. I sometimes make up stories and tell lies.
60. I become upset when scolded for a mistake.
61. I lack confidence in myself.
62. I like to go to school.
63. I feel that I never get a chance to be really good.
64. I do things on the spur of the moment then regret it.
65. I feel happy and very comfortable at home.
66. I am unhappy when I am bad in school.
67. I sometimes have nightmares.
68. I am ashamed of some of my habits.
69. I am usually able to fall asleep regardless of thoughts.
70. I sometimes feel that I am an unlucky person.
71. I seldom or never get myself into trouble.
72. I am free from worry about little things.
73. I feel that I would be less happy if people left me alone.
74. I sometimes feel very wicked and sinful.
75. I sometimes feel that no one loves me.
76. I get upset at the least trouble.
77. I think that I have as much good luck as anyone else.
78. I like people who tell me what they think about me.
79. I sometimes do things against my will.
80. I bite my finger nails.
81. I sometimes imagine myself to be a very great person.
82. I have bad friends and companions.
83. I am able to forget unpleasant things in a very short time.
84. I am often blamed for the mistakes of others.
85. I sometimes think that something terrible is going to happen.
86. I like to tease children and animals.
87. I seldom or never break my word and promises.
88. I sometimes think I am good for nothing.
89. I save some of my money instead of spending it all.
90. I feel that I have no real friends.
91. I am able to concentrate on my work.
92. I seldom or never eat too much or too often.
93. I sometimes feel very happy or very sad without knowing why.
94. I am ashamed of all my sickness and trouble.
95. I seldom or never feel blue.
96. My parents sometimes frighten me.
97. I sometimes lose control over myself.
98. I seldom or never wish that I were someone else.
99. I am very slow in making up my mind.
100. I often giggle and laugh without being able to stop.



FORM II - PERSONALITY SCALE

1. I put off work whenever I can.
2. I always keep my mind on what I am doing and saying.
3. I seldom or never break or lose things.
4. I am usually prompt.
5. I sometimes act cowardly.
6. I seldom or never get tired of study or work.
7. I am not ashamed of any of my relatives.
8. I am easily discouraged.
9. I often make up stories and tell lies.
10. I seldom or never become upset when I am scolded for a mistake.
11. I have plenty of confidence in myself.
12. I hate to go to school.
13. I feel that I have plenty of chances to be really good.
14. I never regret things I do even when I do them on the spur of the moment.
15. I feel unhappy and miserable at home.
16. I have fun when I am bad in school.
17. I sometimes have nightmares.
18. I am not ashamed of any of my habits.
19. Thoughts seldom or never keep me awake.
20. I feel that I am a lucky person.
21. I am always getting myself into trouble.
22. I feel that I would be happier if people would leave me alone.
23. I worry about little things.
24. I sometimes feel very wicked and sinful.
25. I seldom or never feel that no one loves me.
26. I am able to take little troubles without getting upset.
27. I think I would get better grades if I had better luck.
28. I like people who tell me what they think about me.
29. I often do things against my will.
30. I am free from the habit of biting my fingernails.
31. I sometimes imagine myself to be a very great person.
32. I have bad friends and companions.
33. I am able to forget unpleasant things in a very short time.
34. I am seldom or never blamed for the mistakes of others.
35. I sometimes think that something terrible is going to happen.
36. I like to tease children and animals.
37. I always keep my word and promises.
38. I never think that I am good for nothing.
39. I save some of my money instead of spending it all.
40. I feel that I have no real friends.
41. I am unable to concentrate on my work.
42. I seldom or never eat too much or too often.
43. I always know why I am happy or sad.
44. I am unashamed of all my sicknesses or troubles.
45. I often feel blue.
46. My parents sometimes frighten me.
47. I sometimes lose control over myself.
48. I often wish that I was someone else.
49. I am very slow in making up my mind.
50. I seldom or never giggle or laugh without being able to stop.



51. I find it easy to talk to strangers.
52. I feel lonely only when I am alone.
53. I am able to receive a bad mark or lose a game without feeling hurt.
54. I put off my work as long as possible.
55. I dislike to find fault with people.
56. I feel jealous and envious of other people.
57. I would rather follow than lead at a party or game.
58. I am always cheerful and very friendly.
59. I am free from excessive grouchiness.
60. I can look down from high places without feeling dizzy.
61. I am very careful and orderly about things.
62. I am unable to stand any pain.
63. I am afraid of the dark and of loud noises.
64. I am unaffected when some one looks at me when I am writing.
65. I often have headaches.
66. I often feel pain all over my body.
67. My friends think that I am always happy and never miserable.
68. I hate to go to parties and meetings.
69. I usually prefer to read a book than to meet people.
70. I am never afraid that some one might be watching me.
71. I feel at ease when people look at me.
72. I feel that I am not as good as my friends.
73. I always feel tired.
74. I become upset when I have to say something in class.
75. I am free from dizzy spells.
76. I quarrel over games thinking only of myself.
77. I feel very shy in the presence of a teacher.
78. I like to take part in discussions.
79. I am always kind to playmates and pets.
80. I am disliked by my classmates and teachers.
81. I like to be with people rather than alone.
82. I am unpopular at school and at play.
83. I am always treated fairly at home.
84. I sometimes wish I were dead.
85. I am unable to think and speak clearly.
86. I am absent minded.
87. I am always able to keep secrets.
88. I am always able to eat any kind of food.
89. I am annoyed when people ask me questions about myself.
90. It is hard to talk me into doing things.
91. I am able to take a test without becoming upset.
92. I am easily talked into buying unnecessary things.
93. I feel that I must do a thing over and over again until I do it right.
94. I get all mixed up in a contest or a game.
95. I am free from strange feelings that things are not real.
96. I am very nervous.
97. I am able to look people straight in the eyes.
98. I depend on other people in deciding what to do.
99. I often dream that some one has died.
100. I make a lot of fuss about little things.

## APPENDIX II

## RESULTS FROM GROUP STUDIES

CONTROL GROUP					
No.	Positive problems initial measure.	Positive problems final measure.	Gains	Changes	Change Ratios
5117	13	12	-1	14	1.07
1001	36	27	1	32	.88
1549	52	31	-21	35	.67
7654	22	22	0	19	.86
8888	34	39	5	31	.91
5782	37	43	6	23	.62
1333	22	17	-5	27	1.22
1133	48	37	-11	31	.64
1009	15	6	-9	15	1.00
7893	39	35	-4	35	.89
5353	39	45	6	33	.84
1313	56	45	-11	27	.48
4281	35	29	-6	22	.63
1623	32	24	-8	32	1.00
7777	43	37	-6	35	.77
1935	19	14	-5	21	1.10
1649	55	60	5	31	.56
9027	21	26	5	32	1.52
1675	35	35	0	22	.63
7778	21	28	7	25	1.19
2567	17	14	-3	15	.88
1138	31	21	-10	24	.97
1680	56	48	-8	49	.87
3476	33	30	-3	25	.75
8297	31	31	0	32	1.03
9999	37	29	-8	18	.48
7820	33	34	1	23	.69
1111	33	43	10	36	1.09
7842	48	40	-8	37	.77
1003	44	62	18	39	.88
1537	24	32	8	38	1.58
Mean	34.23	32.45	-1.78	28.79	.872
	11.97	12.49	7.76	8.1	.26
x	2.15	2.27	1.24	1.47	.046



EXPERIMENTAL GROUP

No.	Positive problems initial measure.	Positive problems final measure.	Gains	Changes	Change Ratios
8105	25	31	6	28	1.12
5692	17	22	5	19	1.12
5125	38	51	13	45	1.18
1357	31	44	13	32	1.03
1397	26	33	7	29	1.11
1500	55	59	4	36	.64
3469	27	38	11	29	1.08
1087	33	35	2	34	1.03
2991	37	29	-8	28	.76
2739	36	34	-2	25	.70
8211	38	28	-10	32	.84
5557	27	32	5	23	.86
1599	35	26	-9	26	.74
1069	23	29	6	27	1.18
3232	32	38	6	38	1.20
8350	62	54	-8	56	.90
4373	49	44	-5	43	.88
5357	22	17	-5	31	1.41
2178	53	54	-4	26	.45
1379	38	44	6	33	.87
1789	8	18	10	20	2.5
2117	41	37	-4	36	.88
4567	53	52	-1	37	.70
8011	22	19	-3	31	1.41
1561	18	29	11	35	1.95
6783	17	23	6	22	1.3
7837	21	25	4	30	1.43
1234	41	37	-4	30	.73
1017	31	27	-4	30	.97
9783	35	47	12	51	1.47
1369	43	50	7	51	1.20
1001	39	45	6	32	.82
4976	18	21	3	13	.72
3426	29	28	-1	33	1.14
5555	34	37	3	27	.80
1020	15	25	10	28	1.87
1033	26	32	6	32	1.23
1111	24	28	4	26	1.08
2500	30	32	2	40	1.33
Mean	32.15	34.72	2.57	32.35	1.107
	12.22	10.76	6.36	8.31	.39
x	1.96	1.72	1.02	1.33	.062

## DISCUSSION GROUP

No.	Positive problems initial measure.	Positive problems final measure.	Gains	Changes	Change Ratios
CM102	24	31	7	35	1.46
MF103	20	35	15	27	1.35
LH104	44	36	-8	34	.77
LS106	16	18	2	22	1.37
GL107	39	38	-1	25	.64
GW108	31	27	-4	30	.97
ER109	42	33	-9	31	.74
BL110	29	40	11	27	.93
CR111	29	38	9	33	1.14
WF112	27	31	4	38	1.4
DD113	20	28	8	34	1.7
WH114	25	26	1	23	.92
ES115	52	48	-4	34	.65
AS116	54	54	0	34	.63
BN117	35	47	12	40	1.14
DK118	37	39	2	36	.97
ME119	27	30	3	37	1.37
EN120	40	41	1	34	.85
MC121	36	35	-1	27	.75
$\bar{x}$	33	35.53	2.53	32.2	1.04
	10.25	8.30	6.39	5.9	.325
diff.	2.35	1.9	1.47	1.28	.074



## RELAXATION GROUP

No.	Positive problems initial measure.	Positive problems final measure.	Gains	Changes	Change Ratios
550	31	32	1	37	1.19
164	19	25	6	29	1.5
*463	34	35	1	29	.85
512	60	61	1	42	.7
* 52	36	34	-2	43	1.19
444	16	22	6	32	2.
114	28	32	4	37	1.3
* 73	48	41	-7	27	.56
* 15	16	13	-3	20	1.25
468	35	39	4	28	.8
*999	34	25	-9	43	1.26
360	56	49	-7	35	.62
*101	27	23	-4	40	1.47
172	32	31	-1	40	1.25
x	33.71	33	-.71	34.85	1.05
	12.84	11.64	4.69	7.	.396
x	3.44	3.11	1.26	1.88	.11

\*These individuals reported that they were relaxed during experimental period.

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